

# LONGMONT WATER BOARD AGENDA

Monday, June 16, 2014

Service Center  
1100 South Sherman Street  
Longmont, CO 80501

3:00 p.m. – Water/Wastewater Large Conference Room

## MEETING CALLED TO ORDER

1. ROLL CALL
2. APPROVAL OF PREVIOUS MONTH'S MINUTES
3. WATER STATUS REPORT
4. PUBLIC INVITED TO BE HEARD AND SPECIAL PRESENTATIONS
5. AGENDA REVISIONS AND SUBMISSION OF DOCUMENTS
6. DEVELOPMENT ACTIVITY
7. GENERAL BUSINESS
  - a. Cash-In-Lieu Review (The Board will review the current fee for cash in lieu of water rights for possible adjustment)  
Staff Contact: Wes Lowrie (303) 651-8814, [wes.lowrie@ci.longmont.co.us](mailto:wes.lowrie@ci.longmont.co.us)
8. ITEMS FROM STAFF

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  - a. Proposed Public Trust Doctrine Initiatives #89 & #103 (Staff will provide a verbal update to Water Board regarding these initiatives)  
Staff Contact: Nelson Tipton (303)651-8365, [nelson.tipton@ci.longmont.co.us](mailto:nelson.tipton@ci.longmont.co.us)
  - b. Saint Vrain Creek Flood Recovery Master Planning Update (Staff will provide a verbal update to Water Board regarding this effort)  
Staff Contact: Ken Huson (303)651-8814, [ken.huson@ci.longmont.co.us](mailto:ken.huson@ci.longmont.co.us)
  - c. Windy Gap Firing Project Update (Staff will provide a verbal update to Water Board regarding this effort)

Staff Contact: Ken Huson (303)651-8814, [ken.huson@ci.longmont.co.us](mailto:ken.huson@ci.longmont.co.us)

9. ITEMS FROM BOARD

- a. Review of Major Project Listing and Items Tentatively Scheduled for Future Board Meetings.

10. INFORMATIONAL ITEMS AND WATER BOARD CORRESPONDENCE

11. ITEMS TENTATIVELY SCHEDULED FOR FUTURE BOARD MEETINGS

- Cash-in-Lieu Review (March, June, September, December)

12. ADJOURN

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If you need special assistance to participate in a Water Board meeting, please contact Cindy Sater at (303) 651-8817 in advance of the meeting to make arrangements.

# **WATER BOARD MINUTES**

**May 19, 2014**

**Service Center Conference Room  
1100 S. Sherman Street  
Longmont, CO 80501**

## **REGULAR MEETING**

The May 19, 2014, meeting of the Longmont Water Board was called to order by Chairman Bruning at 3:00 p.m. at the Service Center Water Conference Room.

### **1. ROLL CALL**

Board Members Present: John Bruning, John Caldwell, Darcy Juday, Dave Swenson and Todd Williams.

Council Liaison Present: Mayor Dennis L. Coombs arrived at 3:03 p.m.

City Staff Members Present: Dale Rademacher, Cal Youngberg, Ken Huson, Nelson Tipton, Wes Lowrie, and Cindy Sater.

### **2. APPROVAL OF PREVIOUS MONTH'S MINUTES**

**Motion was made by Board member Caldwell to approve Water Board's April 21, 2014 minutes as written; motion was seconded by Board member Williams. Motion was passed unanimously 5-0.**

### **3. WATER STATUS REPORT**

On behalf of the Water Commissioner, staff member, Wes Lowrie, gave the current water status report. The Lyons gage today at 2:15 p.m. was at 457 cfs with an historical average of 305 cfs on this date. Ralph Price Reservoir at Button Rock Preserve was at 6,380.5 feet equaling 12,216 acre feet, down approximately 3,981 acre feet. There remains a free river call on the St. Vrain River and the Main Stem of the South Platte River. Reservoirs in the St. Vrain system were 87 percent full on April 30th. There is currently 225 cfs being released from Ralph Price Reservoir. Snow pack in the South Platte Basin is at 172 percent of average, the St. Vrain basin is at 188 percent of average and the Upper Colorado basin is at 165 percent.

#### **4. PUBLIC INVITED TO BE HEARD AND SPECIAL PRESENTATIONS**

Renee Davis and George Maxmiller were in attendance.

Mr. Maxmiller asked for clarification from Water Board regarding transfer of historical and non-historical water rights. After hearing Mr. Maxmiller's comments Water Board gave clarification on historical water rights policy and recommended that Mr. Maxmiller confer with staff for specifics on his issue.

##### **A. Storm Water Bond Issue**

Dale Rademacher, Director of Public Works and Natural Resources, reviewed the summary of the storm water ballot question that will be going to voters during the June 24<sup>th</sup> election to decide on whether or not to incur debt for the sale of bonds for repair and improvements for the storm water utility. The goal is to prepare the St. Vrain Creek channel to the projected 100-year flood capacity. Pertinent topics reviewed included the St. Vrain Creek capacity and projected numbers, record of past flood mitigation projects, flood damage that occurred September, 2013, extended protection projections to the St. Vrain Creek, explanation of costs, and arguments for and against bond sales. Questions were answered by staff members Dale Rademacher and Cal Youngberg.

##### **B. Union Reservoir Water Quality Presentation**

Staff member, Cal Youngberg reviewed the history of the City's watershed monitoring program. Revisions to the monitoring program in 2010 included the addition of monitoring reservoirs and storm water outfalls. The program now encompasses various river, reservoir and upper watershed monitoring, a macro-invertebrate study, and a rapid bio-assessment of the creek. Through a partnership with the University of Colorado and Northern Colorado Water Conservancy District we are now studying and developing testing standards and methods for measuring emerging contaminants in the upper watershed. Cal reviewed storm water permit requirements for monitoring of outfalls and storm events. Establishment of base-line data of water going back into the creek during normal conditions and during storm events is being developed to allow for detection of cross-connections or potential contamination sources. Water quality data and standards were reviewed for reservoirs including Union Reservoir. Board member Juday asked questions regarding the types and frequency of sampling for oil and gas sites. A private contractor is handling quarterly sampling of shallow ground water in those areas. Any surface spills are required to be reported by the drilling companies. Additional information is available on the City's web site.

**5. AGENDA REVISIONS AND SUBMISSION OF DOCUMENTS**

There were no agenda revisions or documents submitted to Water Board.

**6. DEVELOPMENT ACTIVITY**

**A. Development Activity Requiring Water Board Action**

There were no development activities requiring Water Board action this month.

**B. Development Activity Submitted for Water Board Information Only**

There were no development activities requiring Water Board action this month.

**7. GENERAL BUSINESS**

There were no general business items for Water Board for May.

**8. ITEMS FROM STAFF**

**A. Final Legislative Update**

The Sixty-ninth Colorado General Assembly ended on May 7, 2014. Staff member, Nelson Tipton presented the May water legislative update to the Board. During May 2014, staff added one additional water related bill, SB14-195 to the watch list. Staff will be monitoring this bill since it doesn't impact Longmont's water rights.

- SB14-195: Concerning a study of phreatophyte growth along the South Platte River in the aftermath of the September 2013 flood.

All four of the bills supported by Longmont including HB14-1002, HB14-1005, HB1333, and SB14-179 have been signed by the Speaker of the House and President of the Senate and have been sent to the Governor.

**B. Proposed Public Trust Doctrine Initiatives #89 and #103**

Staff member Nelson Tipton indicated that included in Water Board's May 19, 2014 packet is the final text for proposed Public Trust Doctrines Initiatives #89 and #103. Staff member, Ken Huson explained that the two proposed Public Trust Doctrine initiatives #89 and #103 have passed title setting and both have been appealed to the Colorado State Supreme Court. Ken shared the status of the appeals process and expects to see a ruling by the Court completed by the June Water Board meeting.

- Initiative #89: An amendment to the Colorado constitution concerning a public right to Colorado's environment, and, in connection therewith, declaring that Colorado's environment is the common property of all Coloradan's, e.g.
- Initiative #103: An amendment to the Colorado constitution concerning public ownership of natural and environmental resources, and in connection therewith, creating a public trust in those resources, which include clean air, clean water, and the preservation of the environment and natural resources, e.g.

Staff will continue to monitor these two proposed initiatives and provide an update in June.

## **9. ITEMS FROM BOARD**

### **A. Review of Major Project Listing & Items Tentatively Scheduled for Future Board Meetings**

Water Board's major project listing included in the packet was reviewed.

### **B. Board Member Term Expiration**

Board member Juday's term expires in June, 2014 and she announced that she will not be reapplying for the Water Board appointment.

### **C. Update on Button Rock Preserve**

Ken Huson updated Water Board on the log removal progress at Ralph Price Reservoir and expectations of not filling the reservoir this year. The trail from Hall Ranch will not be reopened this year due to safety concerns with continuing construction work and lack of recreational trails and facilities. The goal to reopen Button Rock Preserve to the public is in the spring of 2015.

## **10. INFORMATIONAL ITEMS AND WATER BOARD CORRESPONDENCE**

Informational items were included in the Water Board packet.

## **11. ADJOURN**

There being no further business to come before Water Board, Chairman Bruning asked for a motion for adjournment.

**A motion for adjournment was made by Board member Williams; the motion was seconded by Board member Swenson. Motion passed 5-0.**

The meeting was adjourned by Chairman Bruning, at 4:38 p.m.

The next regular meeting of the Longmont Water Board will be held on June 16, 2014, at 3:00 p.m. at the Service Center, 1100 South Sherman Street, Longmont, CO 80501.

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**John Bruning, Water Board Chair**

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**Date**

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**Cindy Sater, Recording Secretary**

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**Date**

# **WATER BOARD COMMUNICATION**

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**Meeting Date:** June 16, 2014

**Item Number:** 6

**Type of Item:** Development Activity

**From:** Wes Lowrie, Water Resources Technician, (303) 651-8814  
[wes.lowrie@ci.longmont.co.us](mailto:wes.lowrie@ci.longmont.co.us)

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As the Board will recall, City Council approved Ordinance O-2012-73 on October 23, 2012 which requires Water Board action during annexation review and when further raw water deficit satisfaction is required pursuant to a particular development activity. Listed below are two development activity categories; Development Activity Requiring Water Board Action and Development Activity Submitted for Water Board Information Only.

- 6a Development Activity Requiring Water Board Action
  - i) None
- 6b Development Activity Submitted for Water Board Information Only
  - i) None





# WATER BOARD COMMUNICATION

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**Meeting Date:** June 16, 2014

**Item Number:** 7a

**Subject:** Cash In Lieu Valuation

**Type of Item:** General Business

**From:** Wes Lowrie, Water Resources Technician (303-651-8314)  
[wes.lowrie@ci.longmont.co.us](mailto:wes.lowrie@ci.longmont.co.us)  
Ken Huson, Water Resources Administrator (303-651-8340)  
[ken.huson@ci.longmont.co.us](mailto:ken.huson@ci.longmont.co.us)

**Suggested Action:** Review and if necessary make recommendation to City Council regarding adjusting the current fee for cash-in-lieu of water rights received.

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As Water Board will recall, on May 20, 2014 City Council approved Resolution R-2014-51 establishing the fee for cash in lieu of water right received at the current \$10,800.00 per acre-foot.

In addition, Chapter 14.05.070 of the Longmont Municipal Code reads in part "...The per acre-foot fee for cash in lieu of water rights transfers will be reviewed by the water board at least quarterly at its meetings in March, June, September and December. The basis for the water board recommendation shall include the current cost of new water supply projects identified in the City of Longmont's Raw Water Master Plan, the current market value associated with the purchase of units of Colorado-Big Thompson water, and the current market value of nonhistorical native basin water rights identified in section 14.05.060. Recommendations to adjust the fee will be forwarded to city council if the need for such adjustment is indicated..."

June 2014 represents the normally scheduled quarterly Cash in Lieu review period. A summary of the cash in lieu review criteria follows:

| Criteria  | Details (1)   | Cost/AF  |
|---|---|----------|
| 1. Native Basin Water Rights Transactions (based upon | Lake McIntosh: \$9,434 / AF<br>Longmont Supply: No current data<br>Oligarchy Ditch: No current data<br>Highland Ditch: \$5,400 / AF | \$ 5,417 |



|   |  |                  |
|---|--|------------------|
| credited average yield)                   | Rough and Ready Ditch: No current data<br>Union Reservoir: No current data   |                  |
| 2. Construction Cost for New Water Supply | Water Conservation: \$ 9,000 / AF<br>Windy Gap Firming Project: \$8,750 / AF<br>Union Enlargement & Pumpback Pipeline: \$11,600 / AF<br>Button Rock Enlargement: \$13,900 / AF | <b>\$ 10,800</b> |
| 3. C-BT allotment unit transfer costs     | March – 123 units @ average \$15,091 / AF<br>April – 80 units @ average \$18,105 / AF<br>May – 163 units @ average \$17,860 / AF   | <b>\$ 16,983</b> |

(1) Credit yield per share:

|                      |   |
|----------------------|---|
| Lake McIntosh Res.   | 0.53 AF/share                                     |
| Longmont Supply D.   | 27.89 AF/share (direct), 16.74 AF/share (storage) |
| Highland Ditch       | 24.07 AF/share (direct), historical water only    |
| Pleasant Valley Res. | 25.4 AF/share                                     |
| Rough and Ready D.   | 59.96 AF/share (direct), 38.43 AF/share (storage) |
| Union Reservoir      | 15.3 AF/share                                     |

As part of the most recent Water Board and City Council action regarding setting the fee for cash-in-lieu of water rights dedication, the above three criteria were evaluated. At that time it was determined that because the City was not actively in the market to purchase native basin water rights, as the majority of those which Longmont would accept already reside within the Longmont Planning Area and will be transferred to the City at time of annexation or development pursuant to the Raw Water Requirement Policy, this criteria would continue to be monitored but would not play a significant role in the setting of the cash-in-lieu fee.

Likewise the C-BT allotment unit transfer costs criteria would also continue to be monitored but would not play a significant role in the setting of the cash-in-lieu fee until that time when Longmont determined that purchase of these rights were being planned.

It was therefore determined that the construction cost for new water supply criteria would be the leading criteria used in setting the cash-in-lieu fee. Since Water Board's last evaluation of this fee, the construction cost for new water supply has only changed by the construction cost index.

Water Resources staff will be available to help answer any specific questions which the Board may have regarding this information.

# **WATER BOARD COMMUNICATION**

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**Meeting Date:** June 16, 2014

**Item Number:** 9a

**Subject:** Review of Major Projects Listing and Items Tentatively Scheduled  
for Future Board Meetings

**Type of Item:** Informational

**From:** Water Board

**Suggested Action:** N/A

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Attached is a copy of the most recent Water Board project status report. Please note the report now includes expected future review date information for each item.



## WATER BOARD PROJECT STATUS REPORT

|   | <u>ITEM</u>  | <u>MOST RECENT WATER BOARD REVIEW DATE</u> | <u>PROJECTED NEXT WATER BOARD REVIEW DATE</u> | <u>MOST RECENT ACTION TAKEN AND/OR PROPOSED FUTURE ACTION</u>  |
|---|--|--|---|--|
| 1 | Union Reservoir Enlargement Land Acquisition Program | December 20, 2010                          | As Needed                                     | Acquisition of Bogott property December 2010.  |
| 2 | Water Supply and Drought Management Plan             | April 21, 2014                             | April 20, 2015                                | 2013 Plan approved by City Council on May 7, 2013. Recommended Sustainable Conservation Level be followed. |
| 3 | Windy Gap Firing Project                             | June 16, 2014                              | As Needed                                     | Final EIS Release November 30, 2011, Grand County 1041 Permit issued on December 4, 2012.                  |
| 4 | Water Legislation & Guiding Water Principles         | May 19, 2014                               | November 17, 2014                             | Review of current 2014 legislation issues presented and discussed.   |
| 5 | Cash-In-Lieu Review                                  | June 16, 2014                              | September 15, 2014                            | Currently at \$10,8000 per Acre-Foot. Resolution R-2014-51.  |
| 6 | Button Rock Preserve & Forest Stewardship            | March 17, 2014                             | January 26, 2015                              | 2014 Annual update was presented to Water Board on March 17, 2014.   |

| Tentative Future Event Schedule |      |
|---------------------------------|------|
| Event                           | Date |
|                                 |      |

Water Board Member Terms

Darcy Juday - 2014  
 John Caldwell - 2015  
 John Bruning - 2016  
 Todd Williams - 2017  
 David Swenson - 2018

Updated: June 5, 2014

# **WATER BOARD COMMUNICATION**

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**Meeting Date:** June 16, 2014

**Item Number:** 10

**Type of Item:** Informational Items & Water Board Correspondence

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Attached are information items and Water Board correspondence.



## Cindy Sater

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**From:** Ken Huson  
**Sent:** Monday, May 19, 2014 5:07 PM  
**Cc:** Cindy Sater; Wes Lowrie  
**Subject:** FW: May 20th Council Packet - Additional Information - Item 9E  
**Attachments:** Ordinance\_O-2013-31.pdf; March Cash in lieu water board packet.pdf

Board Members,

Attached is additional information forwarded to City Council concerning tomorrow night's Cash-in-Lieu review. This information was forwarded to help City Council further understand the newer review policy for Cash-in-Lieu review. City Council did receive feedback from Mr. Willis, who questioned if the City should reduce the Cash-in-Lieu fee or not. We will let you know after that Council meeting the final decision on this recommendation.

Thanks, Ken

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**From:** Sara Rusher  
**Sent:** Monday, May 19, 2014 11:11 AM  
**To:** City Council & Mayor  
**Cc:** Ken Huson; Anne Jordan; Attorney's Civic Center Staff; Barb McGrane; Cindy Sater; City Clerk's Staff; Directors; Gloria Cox; Jane Madrid; Joni Marsh; Karen Chandler; Maria Tostado; Molly Kostecky; Pam Coleman; Rigo Leal; Susan Wisecup; Teresa Molloy; Tracie Tovar  
**Subject:** May 20th Council Packet - Additional Information - Item 9E

Good Morning Mayor and Members of Council,

Staff has provided some additional background information regarding Item 9E (the Cash-in-lieu of water rights) on tomorrow night's agenda, for your consideration:

The Cash-in-lieu recommendation process followed by Water Board is outlined in the Raw water Requirement Section of City Code at chapter 14.05.070. This revised review process was approved by Ordinance O-2013-31. A copy of that ordinance is attached.

Water Board reviewed this item over a number of meetings to refine the process for developing the cash-in-lieu recommendation forwarded in this resolution. The recommendation is contained in the Water Board excerpt included in the council packet. Background information relied upon by Water Board to arrive at that recommendation was included in Water Board's March packet. An excerpt of that Water Board Communication, including comparative water rights and project cost information, is attached to this email as well.

As always, please let us know if you have any questions, or need anything further.

Sara Rusher  
City of Longmont  
City Clerk's Office  
Records Manager  
303.651.8648  
[sara.rusher@ci.longmont.co.us](mailto:sara.rusher@ci.longmont.co.us)

 Please consider the environment before printing this email.

## Cindy Sater

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**From:** Cindy Sater  
**Sent:** Tuesday, May 20, 2014 9:59 AM  
**Cc:** Wes Lowrie  
**Subject:** FW: Summer Tours: C-BT and Windy Gap Projects

Water Board members,

Attached is the invitation from Northern Water for their east and west-side tours this year. You may register yourself or contact me if you would like me to register for you.

Thanks,

*Cindy Sater*  
Executive Assistant  
Public Works & Natural Resources  
(303) 651-8817  
[Cindy.sater@ci.longmont.co.us](mailto:Cindy.sater@ci.longmont.co.us)

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**From:** Northern Water [<mailto:NorthernWater@northernwater.org>]  
**Sent:** Monday, May 19, 2014 2:52 PM  
**Subject:** Summer Tours: C-BT and Windy Gap Projects



## Full-Day Tours of the Colorado-Big Thompson and Windy Gap Projects This Summer

Northern Water is conducting full-day tours of the Colorado-Big Thompson and Windy Gap projects again this summer. We invite you to join thousands of others who have toured the project facilities in recent years to learn firsthand about Northern Water and the role it plays in supplying water to Northeastern Colorado.

We are sponsoring two East Slope tours that highlight our conservation gardens, water operations and proposed storage projects. The two West Slope tours travel through Rocky Mountain National Park to view the C-BT collection system and the Windy Gap Project.

There is no charge for the tours and a box lunch is provided. All tours leave from and return to Northern Water's headquarters in Berthoud.

### Tour Registration

If you would like to attend, please register online at [www.northernwater.org](http://www.northernwater.org). Click the **Calendar** link at the top of the Home page. On the calendar, choose one of the tour dates listed below and follow the registration instructions. If you are unable to register online, please call our registration line at 970-622-2220. All registrations are on a first-

come, first-served basis. We will notify if you have a seat on the tour bus by May 28 for the June 16 East Slope tour and 15-30 days before the three other tour dates this summer.

Please bear in mind that if the number of people interested in a specific tour exceeds the space available, priority for tour participation will be given to: 1) those who have not previously participated in our tours; and 2) those who have not participated in the same tour (East Slope or West Slope) within the past few years. This allows the maximum number of people the opportunity to participate. Due to the limited spaces available, we are unable to accommodate large groups.

The dates and *approximate times* for the 2014 tours are:


| <b>East Slope (7:30 a.m. – 4 p.m.)</b>                 | <b>West Slope (7 a.m. – 5:30 p.m.)</b>                |
|--|---|
| Monday, June 16, 2014<br>Wednesday, September 10, 2014 | Thursday, July 17, 2014<br>Wednesday, August 27, 2014 |

### **Waiting Lists**

Waiting lists for each tour will be maintained to allow others to participate should space become available. We will notify you as soon as participation lists for each tour are finalized. Specific itineraries will be e-mailed no later than two weeks prior to each tour. Please provide your e-mail address with your registration.

**If you have signed up for a tour and you are then unable to participate, we sincerely request that you cancel your reservation by calling our office at 970-622-2220 as soon as possible so we can make your space available to someone on the waiting list.** Unfortunately, in recent years we have had a significant number of no-shows, which prevents us from providing this opportunity to others who would like to participate in our tours.

We look forward to meeting you!

 **Northern Water**  
Northern Colorado Water Conservancy District  
Main 800-369-RAIN (7246) | Fax 877-851-0018  
[www.northernwater.org](http://www.northernwater.org) | [Find us on Facebook](#)



## Cindy Sater

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**From:** Cindy Sater  
**Sent:** Wednesday, May 21, 2014 2:09 PM  
**Cc:** Ken Huson; Kevin Boden; Nelson Tipton; Wes Lowrie  
**Subject:** City Council approved items - May 20

Water Board members,

These two water-related agenda items were unanimously approved by Longmont City Council on May 20:

- Resolution establishing the fee for Cash in Lieu of Water Rights Transfers
- Adoption of the 2014/2015 Water Supply and Drought Management Plan

Additional information can be found on the City of Longmont's City Council Agenda web page at [http://www.ci.longmont.co.us/city\\_council/agendas/agendas.htm#previous](http://www.ci.longmont.co.us/city_council/agendas/agendas.htm#previous)

Regards,

*Cindy Sater*  
Executive Assistant  
Public Works & Natural Resources  
(303) 651-8817  
[Cindy.sater@ci.longmont.co.us](mailto:Cindy.sater@ci.longmont.co.us)



# Treatment Operations

MONTHLY NEWSLETTER

## Water Treatment

### Wade Gaddis WTP Preparation

Once again, work is underway to prepare the Wade Gaddis WTP for operational readiness during the summer months of 2014. Historically, this has been done to provide an additional source of potable water for the City of Longmont should demands increase to a level that would be unsustainable by the Nelson-Flanders WTP. The Nelson-Flanders plant recently completed the approval process for an increased daily maximum capacity of 40 MGD. This process was followed by a series of successful operational trials which verified the ability of the plant to meet these new flow totals.

At this point, the purpose of the Wade Gaddis plant preparation is more a safeguard against mechanical failure of the Nelson-Flanders plant rather than the ability to meet increased system demands. As we all experienced last year during the flooding, unforeseen events can take many paths and can pay to be prudent and to hope for the best but prepare for the worst.



To this end, a comprehensive plan has been in place since 2011 at the Wade Gaddis plant encompassing basin cleanings, equipment maintenance, instrument calibrations and all other routine tasks typically associated with preparing the plant for regular operations.

Beginning the first week of June, the plant will sit idle with an expectation of being able to produce potable water at the plant within a 24 to 48 hour window. Additionally, the plan calls for daily plant checks and weekly exercise routines each designed to maintain a high degree of confidence that the plant will continue to be at a ready state throughout the summer season.

*Contributed by Scott Kapala*

## Maintenance

### Working to Overcome Injuries

As we try to improve our attitude toward safety and improve our safety culture we still have occasional injuries. As a supervisor it is my responsibility to write the accident report. Part of that accident report is the question; what will we do to avoid similar injuries in the future? In almost every situation it is training that is necessary however in some cases along with training we are required to engineer out dangers inherent in the work we do.



While (with help) trying to hook a section of 8 inch hose to a pump an employee suffered an injury that required surgery and will require an extended recovery time. The hose is heavy and, with fittings, is 8 to 9 pounds per foot of hose. It is also flexible, making it somewhat like wrestling an anaconda when trying to maneuver it into place.

We have made the decision to eliminate hose of this type whenever possible and go with ridged aluminum tubing which, with fittings, weighs about 4 pounds per foot. It is important that we accomplish the tasks required of us but it is equally as important that we do so in a safe manner. We need to realize that just because we have been doing a task in a certain manner for 20 years does not mean that we should not try and find better or safer ways to accomplish that task.



We have made great strides in improving our safety culture but have to realize that we need to continually look at ways to make continuous improvements. Enjoy your work and BE SAFE.

*Contributed by Obern Staples*



### Instrumentation & Controls

#### Button Rock Instrumentation Efforts

Before the Flood hit in September of 2013, we were in the process of working together with the Colorado Division of Water Resources to install some new instruments to monitor the level of Button Rock (Ralph Price) reservoir and the St. Vrain River flow at the lower gaging station below the reservoir.

For the last 7 months the road to the control building has been inaccessible and under construction, as well as needing utility power being restored throughout the area. This past month we were finally

able to get back up there and finish what we started last year. The new level sensor is an Endress Hauser PMC 71 which is set up to read the head pressure which equates to a reservoir level. The level sensor is tied into a local display and an output isolator. The isolated output from the level sensor is sent down through an underground conduit to the lower gaging station and then tied into the States' data logger and satellite communication equipment with the lower gaging station flow data. We were able to tie into the State's level sensor output and get a

reading back up to the display in the control building for the Rangers to use as a reference for adjusting the flow discharge valve. In addition to the new instruments we installed a new UPS which will provide battery backup and surge protection for the new equipment.



With the help of our integrators at Wunderlich-Malec and RSI, the level and flow signal data from some of our lakes and streams, including Button Rock, are now available through SCADA and can be accessed through WebHMI.

*Contributed by Mike Chacon*

### Wastewater Treatment

#### Thickener #2 Placed Online

After 2 years of being out-of-service, months of renovations, and days of troubleshooting, Thickener #2 was put on-line Thursday May

8, 2014. The last time it was in service was back in January 2012.

Operations staff started filling Thickener #2 on Tuesday May 6, 2014 and tried to



start Thickened Sludge Pump (TSP) #3 without any success. With the help of Maintenance staff, we blew air thru the line to the center-well hoping the line would clear of debris. We tried TSP #4 but had a difficult time opening/closing two of the valves. After a long day, Thickener #1 was put back on-line.

Round two: the next couple of days were spent troubleshooting pumps and replacing the two valves. TSP #4 was put on-line and ran without any complications until early morning when it failed. On the morning of Sunday May 11th, Chris Terrones found Thickener #2 Rake Drive wasn't running since the evening before causing the blanket to pop with no supernatant and very thick sludge. For the next 6 days, operations staff would monitor the TSP and rake drive system and finally got the sludge in Thickener #2 to settle while trying not to feed Digester #3 too erratically.

On Monday May 20th, Jeff walked into Thickener #2 Building and found several feet of sludge on the floor. The expansion tank had a pin-hole leak and caused it to burst. Maintenance staff was able to fabricate a new expansion tank. The last issue with putting Thickener #2 on-line

was getting TSP #4 working properly. TSP #4 is still having issues but we are hopeful to have this fixed shortly. The journey to getting Thickener #2 in service was long and tedious but expected.



*Contributed by Cuong Le*



# Project Update

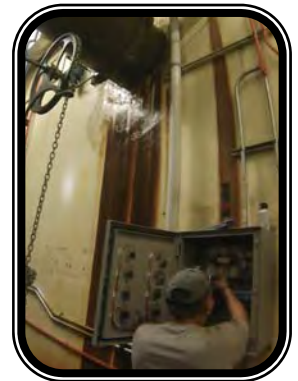
## TREATMENT OPERATIONS

### Wastewater Treatment



**Headworks Construction** - The contractor is beginning to tie newly constructed systems and structures into the existing process as the Headworks project nears completion. A major tie-in occurred on May 20 when the contractor had to bypass pump all influent flow around a new diversion structure so an existing concrete pipe could be demolished. The work had to be completed at night when influent flows were low so we could minimize the size of the temporary bypass pumping units. Planning and coordination meetings were held a month prior to the work to start writing up the sequencing plan. Weekly meetings were held to discuss and refine the sequencing plan for the day before, night of, and day after the work. The sequencing plan also had several contingency items in case something went wrong at critical junctures of the work. Luckily, none of the contingency items were needed and the work went smoothly.

**Raising Sump Pump Panels** - The City of Longmont (COL) experienced substantial flooding beginning on September 12<sup>th</sup> and continuing through September 15<sup>th</sup> that affected the entire City and the surrounding areas. The Wastewater Treatment plant was submerged during the flooding which disrupted the treatment process, damaging motors and instrumentation. Upon reentry to the facility, the critical task was to restore the sump pumps in every building after each building was dewatered. Because the control panels for the sump pumps were not located above grade level, the panels were also submerged and had to be replaced one-by-one to restore use of their associated sump pumps. This took a lot of additional time, manpower, and money to accomplish. Treatment operations would like to relocate critical sump control panels to above grade level, ensuring that the power and control conductors and terminations leading from the control panel to the sump pumps and level sensor are installed without unnecessary splices or terminations and can be safely submerged in the event of flooding. The buildings that this will be completed in are RAS/WAS, Digester 1 & 2, as well as the Mechanical Building.



### Water Treatment



**Small CIP Projects with Carollo Engineers** - Operations has multiple small scale capital improvement projects needing either preliminary design or complete design and delivery. The projects are as follows: plate settler remediation, residuals lift station, anti-siphon design review, and caustic system low-flow metering design. The specific tasks for each project is outlined below:

- **Plate Settler Remediation:** The existing sedimentation basin has a row of plates that are beneath the existing walkway and the original design of the plates was modified during installation causing short-circuiting. Plant staff has modified the plates to prevent short-circuiting of this row, but a permanent long term solution is necessary for this treatment infrastructure.
- **Residuals Lift Station:** Feasibility evaluation to determine what operations can do to improve current processes for cleaning both backwash ponds and basin cleaning. Cleaning the backwash ponds currently requires setting up a skid mount hose to mix up residuals and then a pump moves the residuals to pond No.1; a very time and labor intensive task. Basin cleaning uses existing piping with residuals routed to pond No.4 but due to inadequate hydraulics, this is very difficult.
- **Anti-siphon Design Review:** The original design of the chemical feed system included pipe loops with an air release valve at the high point as well as anti-siphon devices. The fixtures are hard to get to, and it is impossible for operations staff to monitor the return lines to the chemical tanks to see if the anti-siphon loops are discharging back to the chemical tanks.
- **Caustic System Low-Flow Metering:** The plant typically operates with the majority of the base being fed as soda ash at the front of the treatment plant. The caustic soda system typically trims at the combined filter effluent to "dial-in" the desired finished water pH. The existing flow meter that has to be used is oversized for the application and feedback from SCADA cannot confirm the pumping rate due to the low flow rates (below the allowable range of the magnetic flow meter).

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